

REMARKS

In response to the Final Office Action mailed April 16, 2003, and in connection with the above-referenced Request for Continued Examination under 37 C.F.R. §1.114, Applicant amends claim 6, cancels claim 7, and adds new claims 22-27. Claims 1-5 remain withdrawn from consideration. Accordingly, claims 6 and 8-27 remain to be examined.

I. Claims Rejected Under 35 U.S.C. § 102

Claims 6-9, 14, and 16-18 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,133,550 issued to Griffiths, et al. (hereinafter “Griffiths”).

It is axiomatic that in order to anticipate a claim, each element of the claim must be taught by a single reference. In regard to claim 6, this claim has been amended and includes the elements of a duct in the form of a tube, a tube comprising an inlet opening and an outlet end where the inlet opening faces the outlet end, the inlet and outlet configuration to generate a gas flow generally parallel to the plain of the substrate in order to avoid turbulence during a treatment process.

Griffiths does not teach a duct in the form of a tube, as claimed in claim 6. Rather, Griffiths teaches a furnace cavity. See col. 3, line 43 of Griffiths. The Examiner has not identified and the Applicant has been unable to discern any part of the cited sections of Griffiths that teach a duct in the form of a tube as claimed in claim 6.

Further, the cavity taught by Griffiths does not include an inlet facing an outlet, as claimed in claim 6. The gas supply 150 of Griffiths does not face the gas exhaust 151. See Griffiths, Fig. 1. Also the gas supply and exhaust are not arranged in relation to the cavity of Griffiths to generate a gas stream that is generally parallel to the surface of a wafer 135. See Griffiths, Fig. 1. The gas supply of Griffiths is perpendicular to the surface of the wafer. The gas supply channel does not avoid turbulence during the treatment process because it provides gas perpendicular to the wafer. This in fact causes turbulence. See Fig. 1 of Griffiths. Thus, Griffiths does not teach each of the elements of claim 6. Accordingly, reconsideration and withdrawal of the anticipation rejection of claim 6 are requested.

Amendment of claim 6 is supported by the specification. Page 9, line 19 of the Specification supports the claim of a reactor for chemical and vapor deposition of layers of material on at least one substrate. A tube comprising an inlet opening and an outlet facing the opening is supported by the specification at page 7, lines 7-14. A horizontal duct made of refractory and thermal conductor material that is chemically stable with respect to the gaseous compounds is supported in the Specification at page 8, lines 11-14. A duct being arranged in relation the gas emitting means such that the inlet opening lies facing the gas inlet is supported by the Specification at page 7, lines 25-28. The generation of a gas flow generally parallel to the plain of at least one substrate from the inlet opening to the outlet end of the duct is supported by the Specification at page 7, lines 34-35 and page 8, line 6. A duct for channeling a gas stream thereby limiting any turbulence that might disturb the growth of layers of the material on a substrate is supported by the Specification at page 4, lines 18-21. A duct for absorbing the radiation emitted by a first and second heating means is supported by the specification at page 4, lines 14-15.

In regard to claims 8-9, 14, and 16-18, these claims depend from independent claim 6 and incorporate the limitations thereof. Thus, at least for the reasons mentioned above in regard to claim 6 these claims are not anticipated by Griffiths. Accordingly, reconsideration and withdrawal of the anticipation rejection of claims 8-9, 14, and 16-18 are requested.

II. Claims Rejected Under 35 U.S.C. §103

Claims 10-11, and 21 stand rejected under 35 U.S.C. §103(e) as being unpatentable over Griffiths in view of U.S. Patent No. 5, 253,324 issued to Wortman, et al. (hereinafter “Wortman”).

In order to establish a *prima facie* case of obviousness, the Examiner must show that the cited references, combined, teach or suggest each of the elements of the claim. In regard to claims 10, 11, and 21, these claims depend from independent claim 6 and incorporate the limitations thereof. Thus, at least for the reasons mentioned in regard to the anticipation rejection of claim 6, Griffiths does not teach or suggest each of the elements of these claims. Specifically, Griffiths does not teach a duct in the form of a tube, a gas inlet facing a gas outlet to generate a generally

parallel gas stream over the surface of a wafer in order to minimize turbulence. Wortman does not cure these defects of Griffiths. The Examiner has not indicated and Applicant has been unable to discern any part of Wortman that teaches or suggests a gas inlet facing a gas outlet to generate a stream of gas parallel to the surface of a wafer in order to avoid turbulence during a treatment process, as claimed in independent claim 6. Thus, the Examiner has failed to establish that Griffiths combined with Wortman teaches or suggests each of the elements of claim 6. Therefore, Griffiths combined with Wortman does not teach or suggest each of the elements of claims 10, 11, and 21 which depend from independent claim 6. Accordingly, reconsideration and withdrawal of the obviousness rejection of claims 10, 11, and 21 are requested.

Claims 12 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Griffiths and Wortman in further view of U.S. Patent No. 4,747,367 issued to Posa (hereinafter “Posa”).

Claims 12 and 13 depend from independent claim 6 and incorporate the limitations thereof. Thus, for the reasons mentioned above in regard to claims 6, 10, 11, and 21, Griffiths and Wortman do not teach or suggest each of the elements of claims 12 and 13. Posa does not cure these defects of Griffiths and Wortman. The Examiner has not indicated and Applicant has been unable to discern any part of Posa that teaches or suggests a gas inlet facing a gas outlet to emit gas into a cavity whereas to generate a gas stream that is generally parallel to the surface of a wafer and to avoid turbulence during a treatment process. Thus, Griffiths and Wortman combined with Posa do not teach or suggest each of the elements of claims 12 and 13. Accordingly, reconsideration and withdrawal of the obviousness rejection of claims 12 and 13 are requested.

Claim 15 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Griffiths in view of U.S. Patent No. 6,002,109 issued to Johnsgard, et al. (hereinafter “Johnsgard”).

Claim 15 depends from independent claim 6 and incorporates the limitations thereof. Thus, at least for the reasons mentioned above in regard to claim 6, Griffiths does not teach or suggest each of the elements of claim 15. Johnsgard does not cure the defects of Griffiths. The Examiner has not identified and the Applicant has been unable to discern any part of Johnsgard that teaches

or suggests a gas inlet facing an outlet arranged in relation to a cavity such that a gas stream is generally parallel to the surface of a wafer and designed to channel the gas flow to avoid turbulence during a treatment process. Thus, the Examiner has not established that Griffiths in view of Johnsgard teaches or suggests each of the elements of claim 15. Accordingly, reconsideration and withdrawal of the obviousness rejection of claim 15 are requested.

Claim 19 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Griffiths. Claim 19 depends from independent claim 6 and incorporates the limitations thereof. Thus, at least for the reasons mentioned above in regard to claim 6, claim 19 is not obvious over Griffiths. Therefore, Griffiths does not teach or suggest each of the elements of claim 19. Accordingly, reconsideration and withdrawal of the obviousness rejection of claim 19 are requested.

Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Griffiths in view of U.S. Patent No. 5,695,567 issued to Kordina, et al. (hereinafter “Kordina”).

Claim 20 depends from independent claim 6 and incorporates the limitations thereof. Thus, at least for the reasons mentioned in regard to claim 6, above, Griffiths does not teach or suggest each of the elements of claim 20. Further, Kordina does not cure the defects of Griffiths. The Examiner has not indicated and the Applicant has been unable to discern any part of Kordina that teaches or suggests a gas inlet facing a gas outlet to generate a gas stream as generally parallel to the surface of a wafer and to channel gas flow to avoid turbulence during a treatment process as claimed in claim 6. Therefore, Griffiths in view of Kordina does not teach or suggest each of the elements of claim 20. Accordingly, reconsideration and withdrawal of the obviousness rejection of claim 20 are requested.

III. New Claims

Applicant believes that the new independent claim 24 is not taught or suggested by the cited references including Griffiths, Wortman, Posa, Johnsgard, and Kordina. Claim 24 includes many of the elements of claim 6 including an inlet opening facing an outlet end, the inlet opening to generate a gas stream parallel to a surface of a wafer in order to minimize turbulence. Thus, claim 24 is patentable over the cited references at least for the reasons mentioned in regard to claim 6.

Applicant further believes that it would not be obvious for one of ordinary skill in the art to combine the cited references in order to teach or suggest each of the elements of claim 24. Thus, Applicant believes that claim 24 is in condition for allowance.

New claims 25-27 depend from independent claim 24 and Applicant likewise believes that these claims are in condition for allowance.

New claims 22 and 23 depend from independent claim 6 and incorporate the limitations thereof. Thus, at least for the reasons mentioned in regard to independent claim 6, these claims are not anticipated or obvious over the cited references. Claim 22 is supported in the specification at page 17, lines 36-39. Claim 23 is supported in the specification at page 9, lines 16-21, and page 9, lines 24-30.

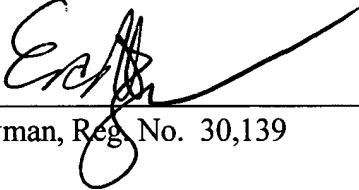
CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 6, and 8-27 patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

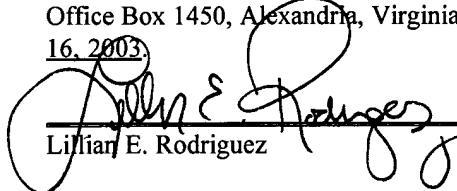
Dated: September 16, 2003

By 
Eric S. Hyman, Reg. No. 30,139

12400 Wilshire Blvd.
Seventh Floor
Los Angeles, California 90025
(310) 207-3800

CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, Post Office Box 1450, Alexandria, Virginia 22313-1450, on September 16, 2003.

 9-16-03
Lillian E. Rodriguez September 16, 2003